

INTRODUCTION TO BLOCKCHAIN

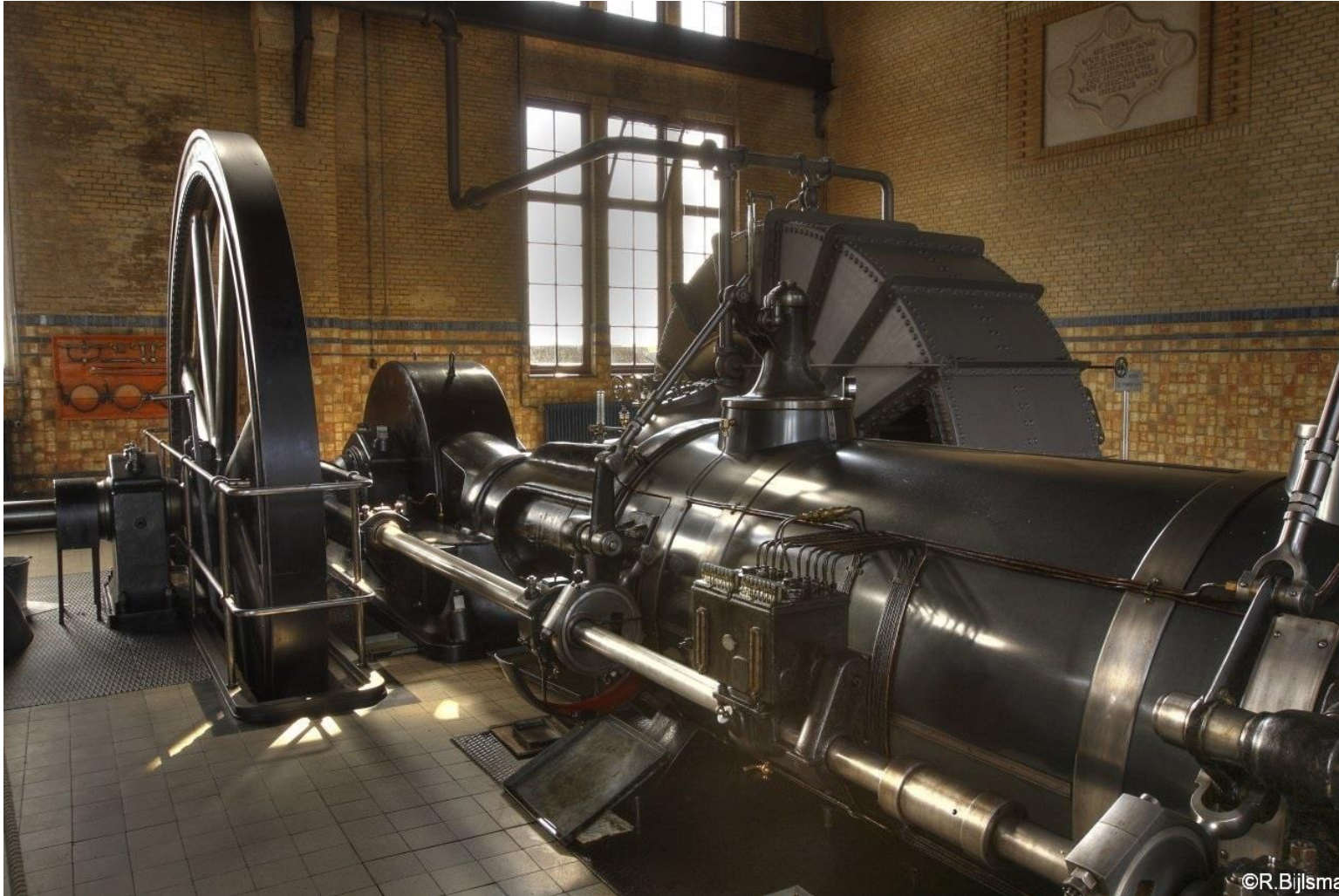
Melle Jorritsma

PinkWeb

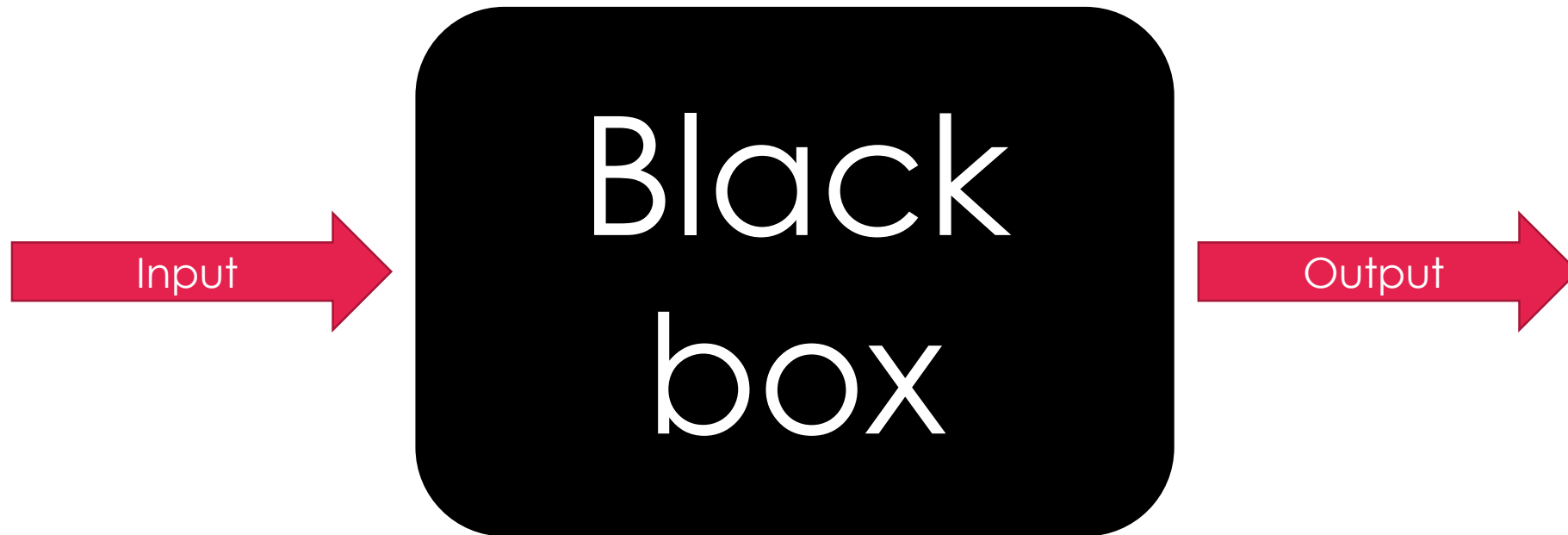
18 april 2018

Twitter: @mellejorritsma / @pinkweb / #ictacc

VISIBLE TECHNOLOGY



INVISIBLE TECHNOLOGY

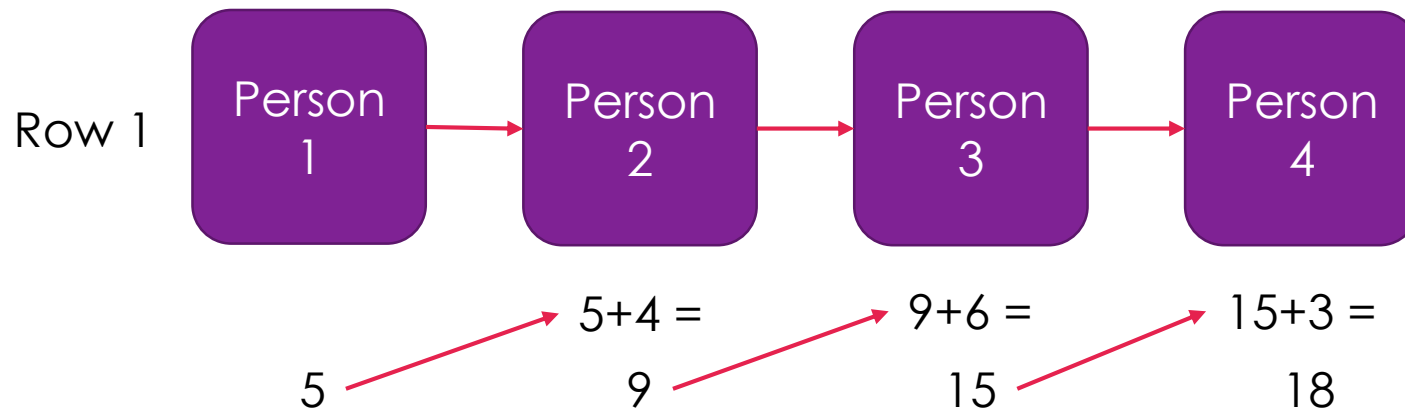


HUMAN BLOCKCHAIN

- World's first human blockchain
- How many characters has your first name?

HUMAN BLOCKCHAIN

- First row:

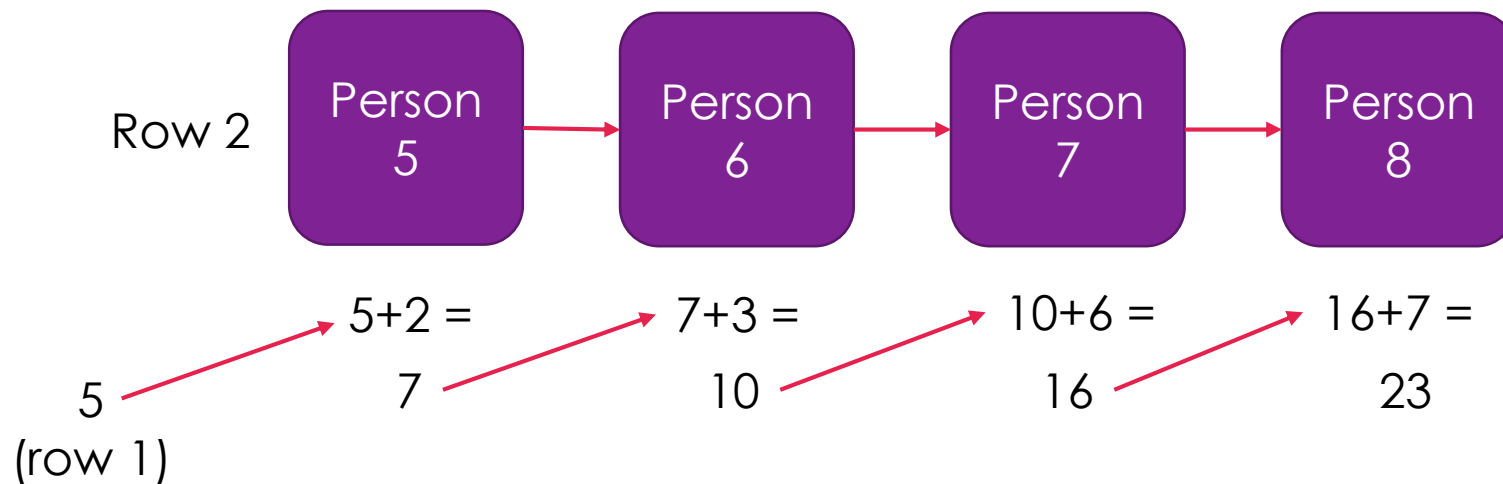


Divide and round:

$$18 / 4 = \mathbf{5}$$

HUMAN BLOCKCHAIN

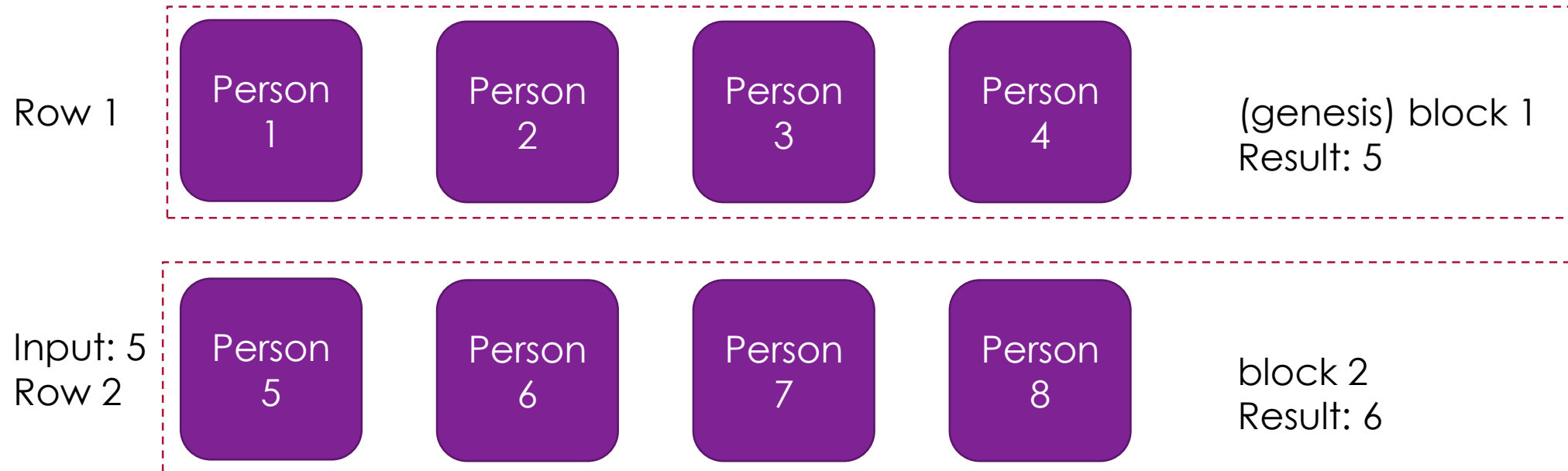
- Second row:



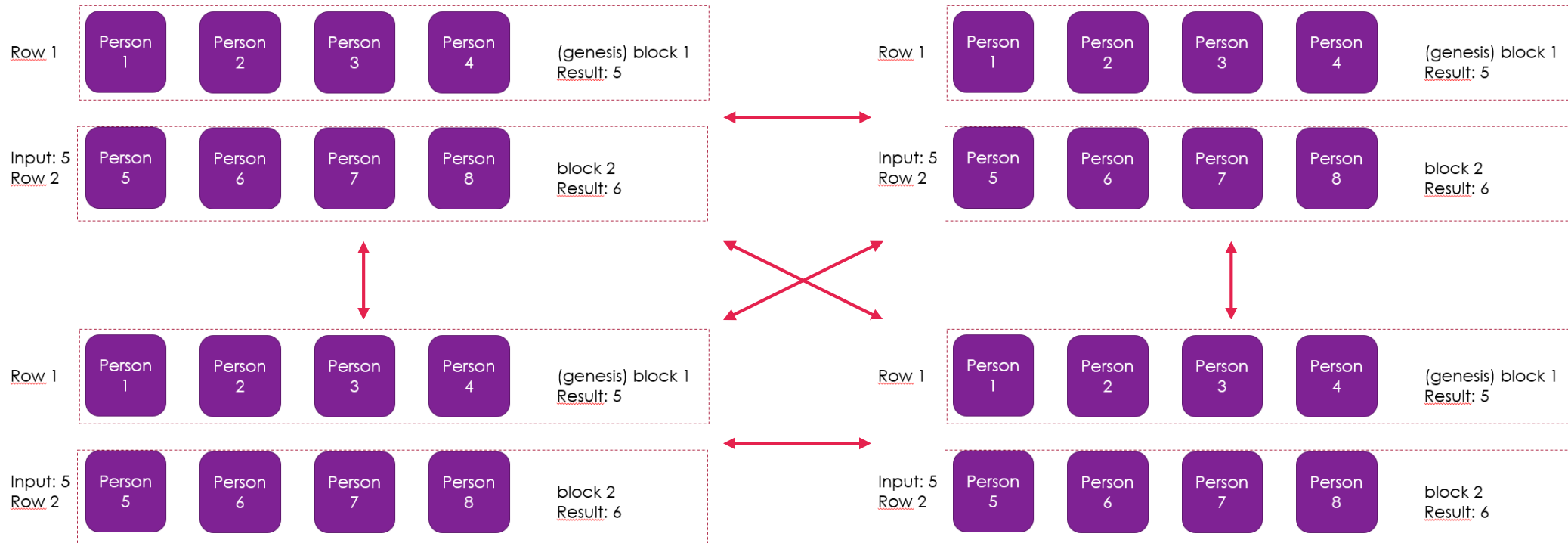
Divide and round:

$$23 / 4 = \mathbf{6}$$

HUMAN BLOCKCHAIN



HUMAN BLOCKCHAIN



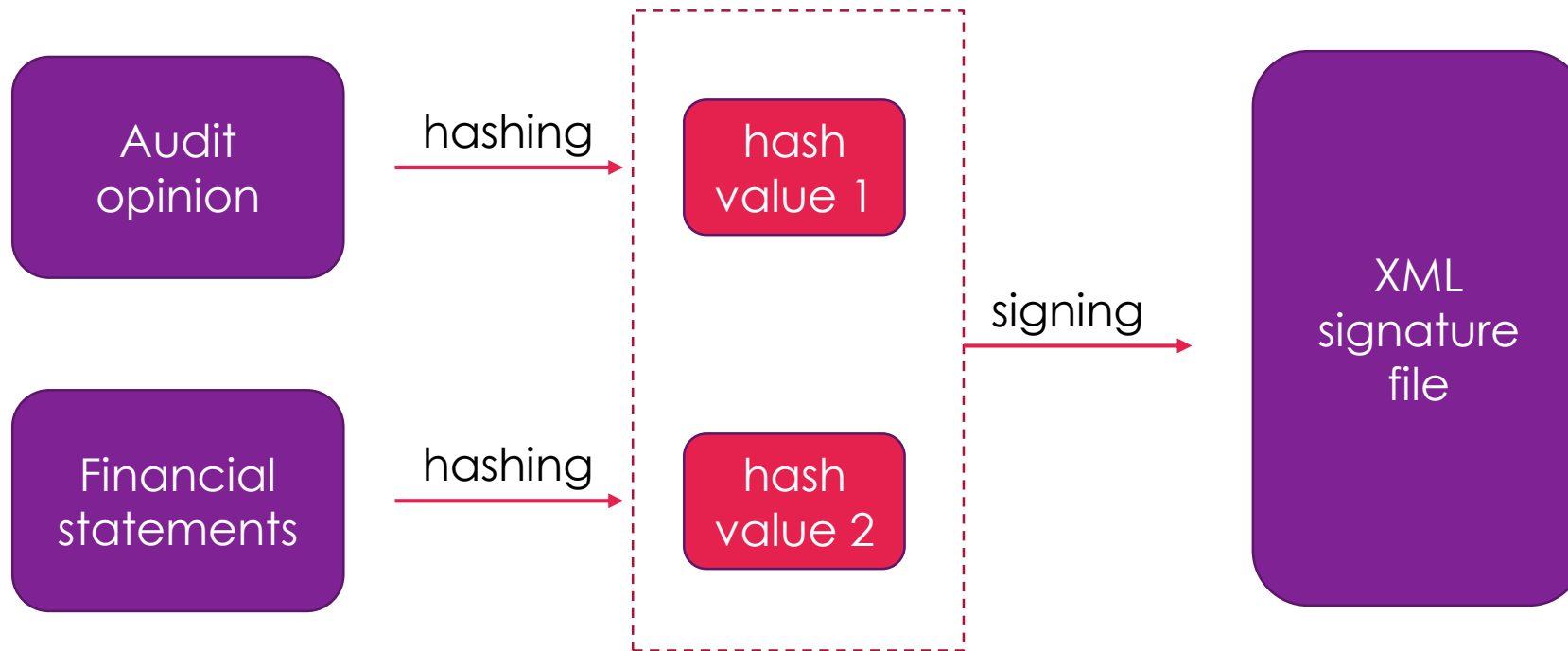
BLOCKCHAIN HISTORY

- 1805 • Napoleon: register of ownership
- 1979 • Merkle tree: hash tree
- 1991 • Haber and Stornetta: cryptographic blocks
- 1993 • Cynthia Dwork and Moni Naor: Proof of Work
- 2009 • 3 januari 2009: first recorded BitCoin transaction
- 2017 • 18 december 2017: all time high BitCoin: 1 BTC = 19498 dollar

BLOCKCHAIN NEW TECH?

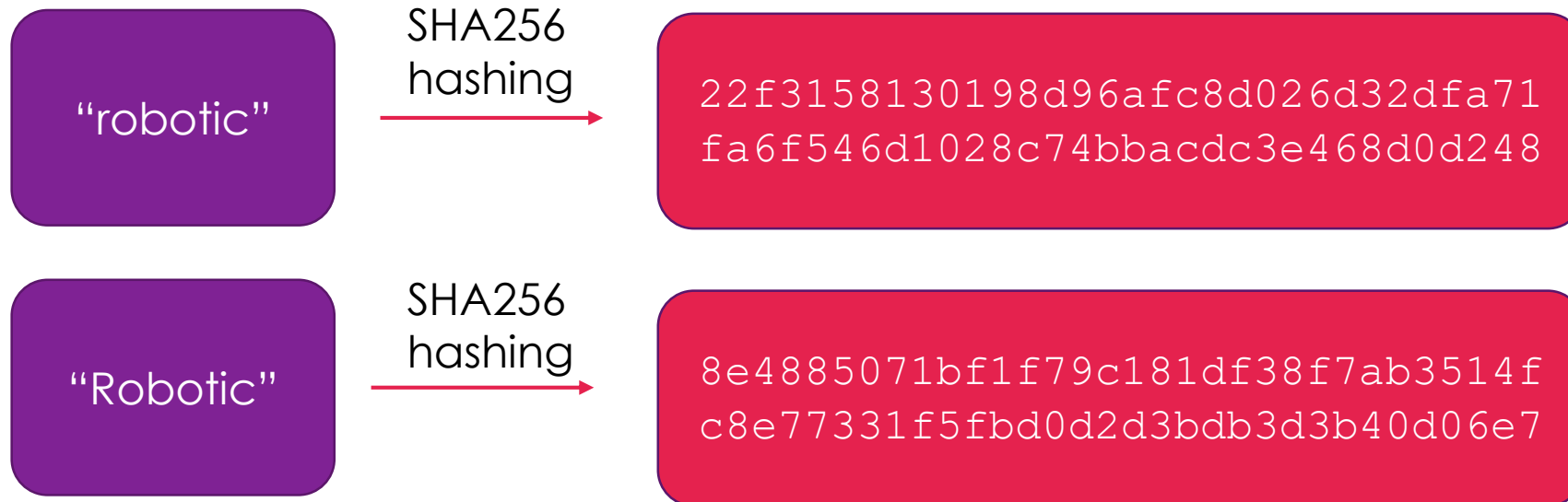
- Hashing and signing
- SBR Assurance

Signing with private key:
Personal professional
certificate



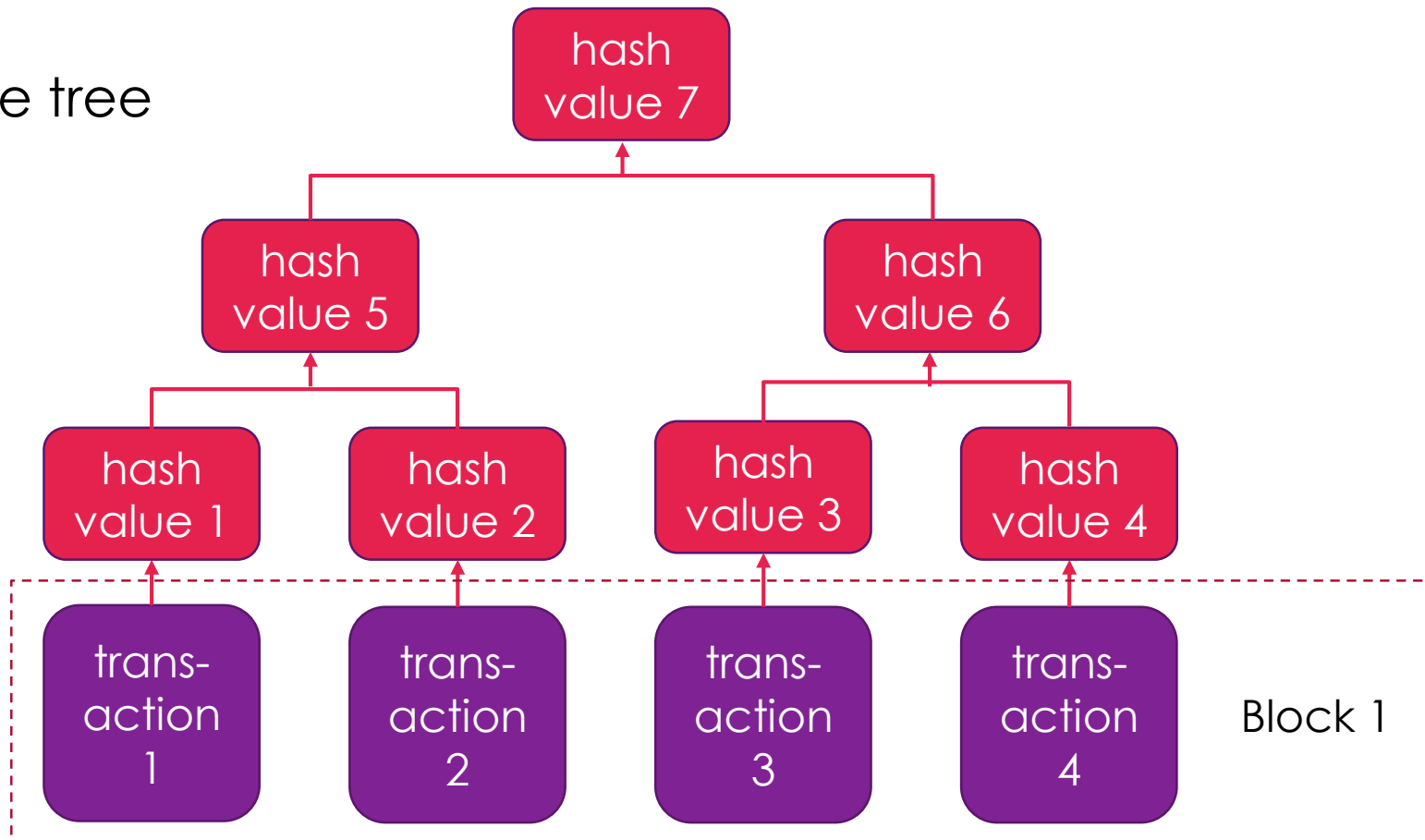
HASHING

- SHA256: 256 bit
- = 64 hex chars (0 – 9, a – f), each 4 bit



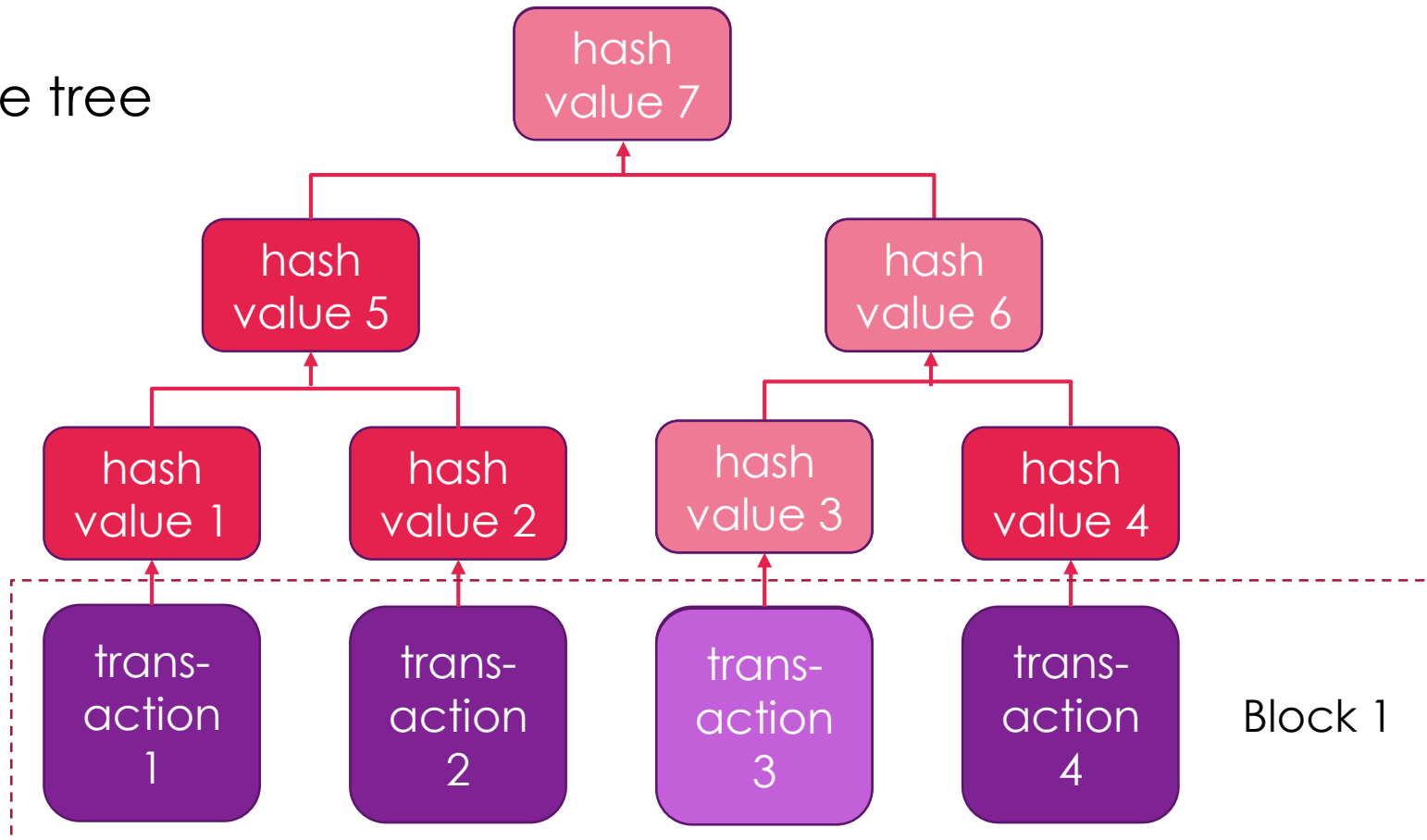
MERKLE TREE

- Merkle tree



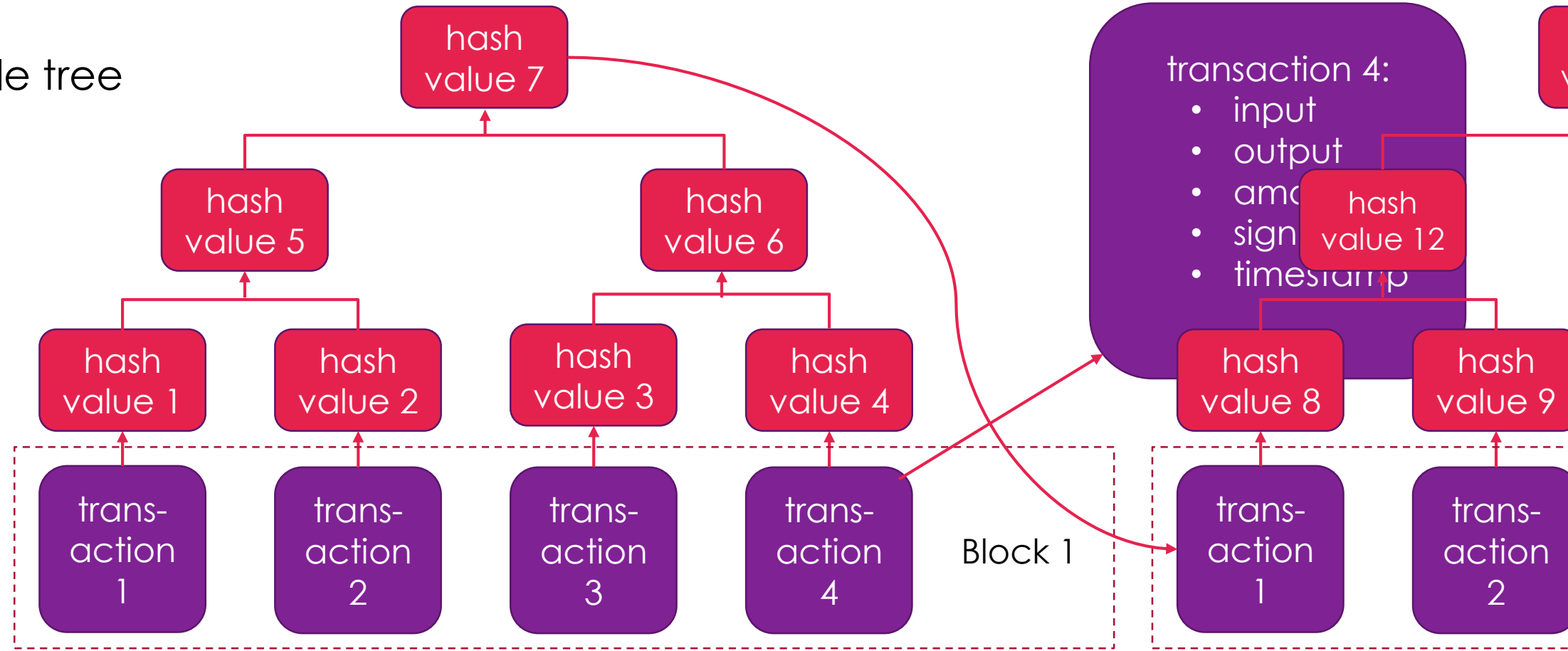
MERKLE TREE

- Merkle tree



MERKLE TREE

- Merkle tree



BLOCKCHAIN INGREDIENTS

- Transactions bundled in linked blocks
- Ownership: signed
- Trust: verified and distributed
- Settlement model
- Anti hack: Proof of Work / Proof of Stake

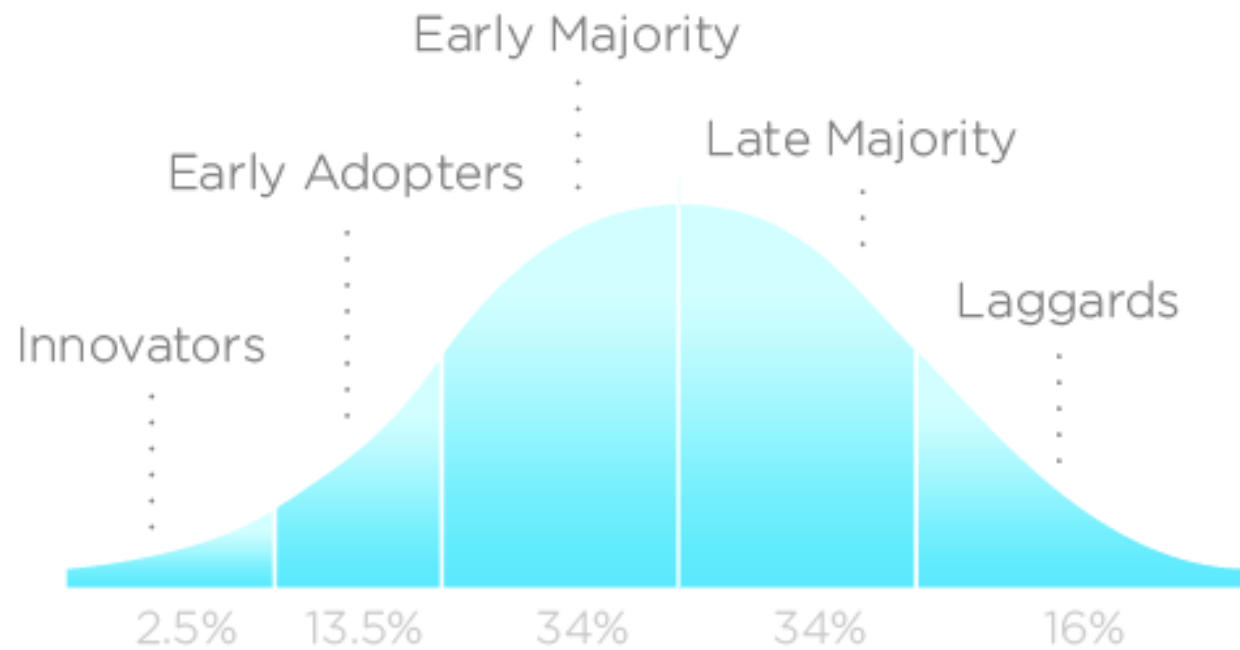


DIFFERENT BLOCKCHAINS

- Cryptocurrencies
- IOTA: connect devices, exchange data
- Smart contracts: auto execute transactions
- Private / public blockchain

FUTURE

- Legal issues
- Standardization
- Innovation adoption



INNOVATION ADOPTION LIFECYCLE

THANK YOU

Find your own truth